

Biscuit Joiners: From Simple to Super



Blade accessibility, dust collection, and fence adjustment are just a few of the features that explain the \$100 to \$650 price range

BY GREGORY BURR

Every time my editor from *Fine Homebuilding* visits me, I praise the virtues of my biscuit joiner. It is my favorite tool. Sometimes called a plate joiner, this compact tool has an unassuming appearance: The body is similar to an angle grinder, and the blade is hidden inside the base.

Biscuit joiners are used to plunge-cut slots for wooden biscuits that align and strengthen joints. I bought my first biscuit joiner because I wanted a sure, simple way to install tight, strong mitered casings. But once you own a biscuit joiner, it doesn't take long before you're using it for butt-joining baseboard and crown molding, assembling cabinets and face frames, and many other trim-carpentry and woodworking projects.

I recently test-drove 11 biscuit joiners, paying attention to a list of criteria I developed from experience with my DeWalt. Among other things, I looked at their owner's manuals, cases, the ease of maintenance, and the quality of the joints each tool made. They were all ca-

pable of making strong, tight joints, but varied greatly in features and versatility. The most important considerations were slot sizes, comfort, dust collection, blade changes, and at the top of the list, fences.

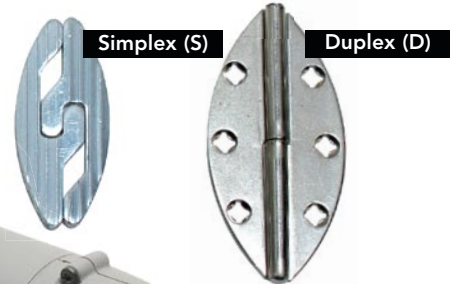
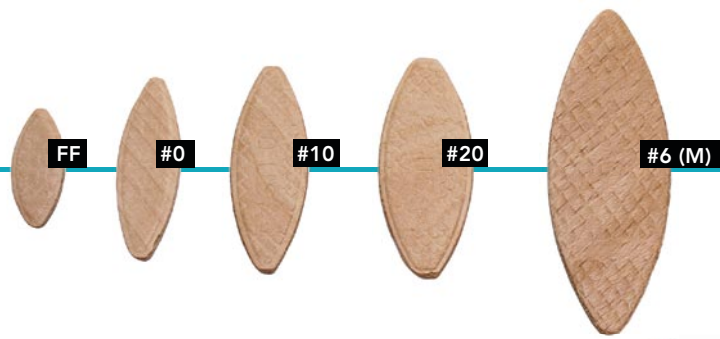
The Lamello Top 20S was clearly the best tool. I would call it the Cadillac of biscuit joiners, but at \$650, it is priced more like a Ferrari. If the Lamello is like a sports car, the Porter-Cable is like a sport-utility vehicle: big but versatile. I chose the Porter-Cable as best value because it has an accessory blade that allows it to double as a mini-biscuit joiner.

Most people don't get to test-drive biscuit joiners. To make sure you pick the best tool for your needs, take a close look at each biscuit joiner's features and weigh them against the types of projects you'll use the tool for. I promise that once you own one of these handy tools, you'll find a way to use it on just about every project. □

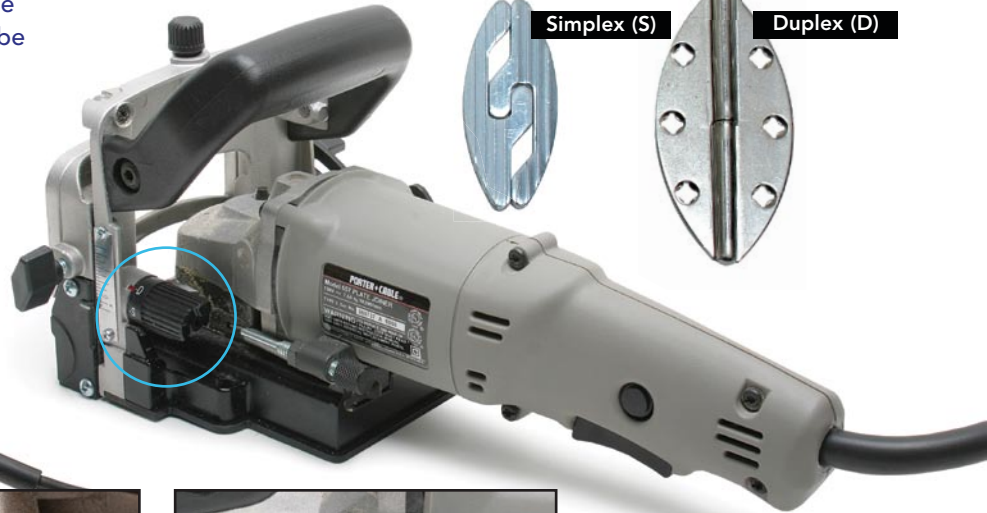
Gregory Burr is a general contractor in Westbrook, Conn.
Photos by Brian Pontolilo.

MORE BISCUIT SIZES MAKE A MORE USEFUL TOOL

There are three standard wooden biscuit sizes: #0, #10, and #20. All biscuit joiners will cut slots for these biscuits. Some have an M (max) setting that will cut slots for #6 wooden biscuits; an S-setting for Simplex interlocking biscuits; and a D-setting to cut mortises for Duplex hinges. Some tools will accept a smaller blade that cuts slots for FF mini-biscuits. Slot settings can be fine-tuned for tighter- or looser-fitting biscuits.



For most joints, Ryobi makes the cut. This tool cuts slots only for #0, #10, and #20 biscuits, which are all you need for most joinery. Even on this tool, the slot-size setting can be calibrated by adjusting a locking nut.



The Porter-Cable cuts them all. This tool cuts slots for seven different biscuits, though it requires that you change the blade to cut slots for FF mini-biscuits. A threaded stop can be adjusted to fine-tune slot sizes.



A LIGHT TOOL WITH A GOOD GRIP IS EASY TO CONTROL

When it comes to comfort and control, there are three things to consider: the handles, the trigger, and the weight. All the biscuit joiners have a front handle or knob mounted either to the motor or to the fence. Only a few have an ergonomic handle on the body with an easy-to-reach trigger. Most of them simply have an on/off switch located on the side or top of the tool. Biscuit joiners range from 6 lb. to 8 lb. The difference may sound insignificant, but it has a surprisingly large impact on how comfortable the tool is to work with.

You can cut slots all day long with the DeWalt. At 6.6 lb. and with a comfortable grip at the end of the body, this middleweight is one of the most comfortable biscuit joiners to use. The trigger can be locked in the on position for multiple cuts.

Ergonomics is one thing Lamello seems to have overlooked. In most other areas, Lamello biscuit joiners are a shrine to good engineering, but the thick body is difficult to grip and the on/off switch is hard to reach.

The Ryobi might wear you out after a few joints. At around 8 lb., this biscuit joiner is one of the heaviest and is not well-balanced. Fortunately, the D-shaped handle offers a comfortable grip, and the trigger is at your fingertips.



THE FENCE IS THE MOST IMPORTANT PART

If you put a $\frac{3}{4}$ -in.-thick board and the base of any biscuit joiner flat on a worksurface, the tool will cut a slot in the center of the stock. To cut a slot in an angled edge or to center a biscuit in any other size board, you'll need to use the fence. There are two basic styles of fences: those that incorporate the angle and height adjustment into one mechanism; and those that have a height stop that attaches to the adjustable-angle fence. Most fences have an angle adjustment on the left-hand side and a height adjustment on the right. They all adjust to angles from 0° to 90° , and some can reach 135° , a useful position for sturdying the tool and indexing slots in 45° edge miters. Only a few of the tools have detents at common angles. The height adjustments range from $1\frac{3}{8}$ in., which will center a biscuit in $2\frac{3}{4}$ -in. boards, to $2\frac{3}{8}$ in., which will center a biscuit in $4\frac{3}{4}$ -in. boards.

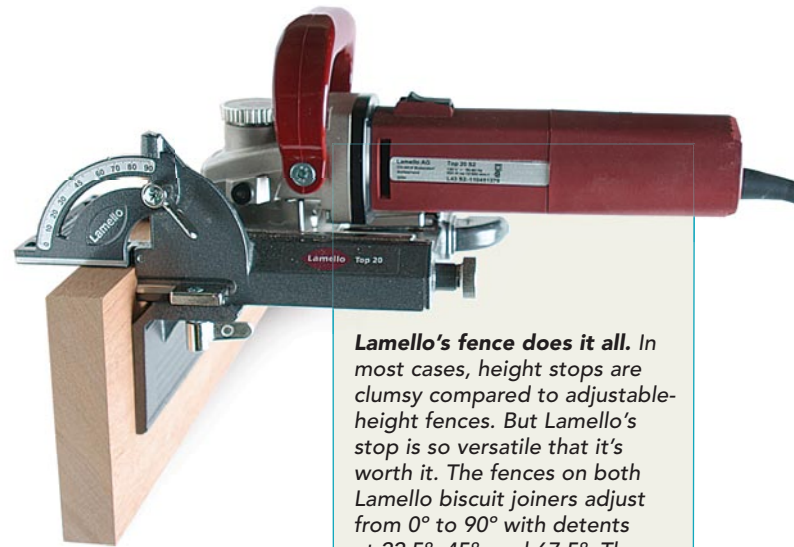


The Virutex fence has no frills, but it reaches great heights. With quick-release levers to lock in accurate adjustments, this fence is easy to use. The 90° maximum angle is limited, but the height adjustment can be set to center biscuits in $3\frac{1}{2}$ -in. stock.

Porter-Cable's fence makes it easy to handle large angles. It takes a minute to get oriented around this fence because it is the only biscuit joiner with the angle adjustment on the right-hand side. Although this fence looks cumbersome, it is sturdy and versatile, offering a full range of angles from 0° to 135° .



Although the $1\frac{3}{8}$ -in. maximum height adjustment is average, this is one of only a few tools that comes with a plastic thickness plate. Attached to the fence, the thickness plate makes it easy to center biscuits in $\frac{1}{2}$ -in. stock.



Lamello's fence does it all. In most cases, height stops are clumsy compared to adjustable-height fences. But Lamello's stop is so versatile that it's worth it. The fences on both Lamello biscuit joiners adjust from 0° to 90° with detents at 22.5° , 45° , and 67.5° . The height stop can reach $2\frac{3}{8}$ in. to center biscuits in $4\frac{3}{4}$ -in. boards. Slip the height stop onto the base for more surface area and a sturdier tool. The Lamello biscuit joiners also have a thickness plate for centering biscuits in $\frac{1}{2}$ -in. stock. And the Top 20S has a one-of-a-kind microadjustment knob that allows you to move the blade up or down 2 mm for precision placement.



GOOD DUST COLLECTION IS HARD TO FIND

Dust collection is one area where most biscuit joiners were lacking. The success of the dust bags depends largely on the type of material being cut. MDF and plywood dust collect much better than solid-wood shavings. And some tools with good dust ports tended to clog when using the dust-bag assembly. To improve dust collection, you can connect some biscuit joiners to a shop vacuum.

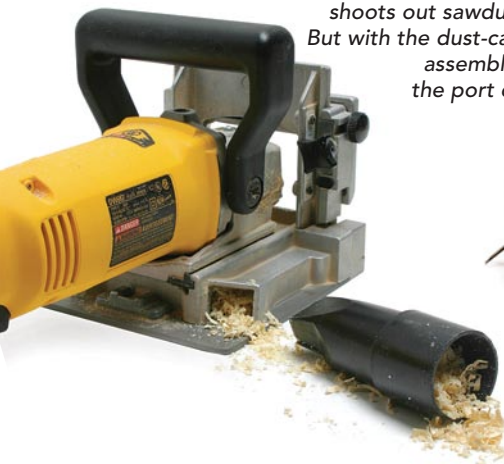


Plywood and MDF



Solid wood

The DeWalt has a good port but a bad bag. The dust port on the DeWalt shoots out sawdust just fine. But with the dust-catching bag assembly attached, the port clogs easily.



A vacuum maximizes dust collection on the Porter-Cable. The dust-collection bag on this tool works OK, but it clogs occasionally. Fortunately, the port also attaches to a standard 1-in. vacuum hose for more efficient dust collection.

EASY ACCESS MAKES IT EASY TO CHANGE THE BLADE

You have to cut a lot of biscuit slots to wear out the carbide-tipped blade that comes with a biscuit joiner. But if you use your tool regularly, you'll notice that over time, it will become increasingly difficult to plunge into a board. And if you accidentally hit a nail or screw, the blade can become instantly unusable. Even if you never wear out your blade, it is a good idea to clear sawdust out of the blade housing once in a while. On some biscuit joiners it is easy to access and change the blade; on others, it is a big project.

Makita's painless blade change.

This is one of the easiest systems for accessing the blade, which is done by simply turning a thumb-screw. To change the blade, press the spindle lock and loosen the blade with the wrench.



The Freud blade is more difficult to reach. Before you can change the blade on Freud's biscuit joiner, you have to unscrew the fence and release the springs with a special hook.



Sometimes a router is the best biscuit joiner

There are times when a biscuit joiner simply cannot get into the area where you need to cut a slot. And there are times when a router is more efficient. For around \$40, a handy item to add to your cache of tools is a router bit that cuts a biscuit slot.

Biscuit joiners require you to push the front of the base against the workpiece and rest the fence on top to cut a slot. If the base cannot fit into an area where you want to place a biscuit, you're out of luck. The router base rests on the surface of the stock, and the bit cuts a parallel slot. The slot cutter is bearing-guided and can reach into areas that a biscuit joiner cannot.

If I need to make a long edge joint with biscuits, I sometimes run the router down the length of each board instead of using the biscuit joiner to cut a series of slots. Two passes with a router and slot-cutting bit is much faster than cutting 20 or more aligning slots with a biscuit joiner.



Biscuit joiners: You get what you pay for, most of the time

There's no question why biscuit joiners are so useful. They increase the quality of almost any joint. The mystery is their price range. Why pay \$650 for a biscuit joiner when you can make strong, tight joints with a \$100 tool? A close look at 11 models shows that you get what you pay for in features and versatility. The entry-level tools are heavy and limited in uses, but the

price is right for someone who wants to strengthen the joints on occasional projects. The professional-level tools are comfortable to use, but there are pros and cons to each model, and their prices don't necessarily reflect the amount of features and versatility they offer. For complex woodworking, the high-cost premier models offer unparalleled features, versatility, and performance.

Ryobi JM82

www.ryobitools.com
800-525-2579

Weight...8 lb.
Biscuit-slot sizes...#0,
#10, #20

This machine is heavy and poorly balanced, but the D-handle is comfortable to grip. The fence adjusts to angles from 0° to 135° with detents at 45° and 90°. The height adjustment reaches a full 2 in. Although there was some play in the base of this joiner, it otherwise seemed well-made. It has the most effective dust bag of all the tools. The blade was difficult to change, but for \$100, this is a fine tool for occasional trim-carpentry and basic-woodworking projects. The Craftsman 315.175390 (top photo) is the same tool with only insignificant differences.



DeWalt DW682

www.dewalt.com
800-433-9258

Weight...6½ lb.
Biscuit-slot sizes...
#0, #10, #20, M

This tool is small and lightweight, with a comfortable handle and trigger. The fence is one of the easiest to calibrate. However, both the angle adjustment (0° to 90°) and height adjustments (1½ in. maximum) are limited compared to many other biscuit joiners. The blade was easy to access and remove with the included wrench, but when cutting solid wood, the dust port clogged after every few cuts with the dust-bag assembly attached. This tool comes in a sturdy, compact case.



Craftsman 900.277302

www.craftsman.com
800-647-3277

Weight...5¾ lb.
Biscuit-slot sizes...#0,
#10, #20, M

This Craftsman biscuit joiner is very similar to the DeWalt DW682. Many parts are identical, including the fence, dust port and bag, and manual. The differences are the grips on the end of the body, the triggers, and the front handle mounted to the motor. The differences didn't change the performance of the tool, but are more a matter of personal comfort. Like the DeWalt, this is a comfortable tool to use. However, the case is not as nice.



\$100

\$150

\$190

\$ Entry level: Fine for an occasional, basic project

Professional grade: Designed

\$100, \$120

Freud JS100, JS102

www.freudtools.com
800-334-4107

Weight...6¼ lb., 6½ lb.
Biscuit-slot sizes...A, B, #0, #10, #20, M

The fences and backward on/off switch (the machine turns on when the switch is pulled back) take some getting used to. But these tools made accurate joints, and the dust collection worked well. Changing the blade involves removing the springs; be careful not to stretch them in the process. These are the only tools with A and B slot depths. A cuts an 11-mm-deep slot; B cuts 13 mm deep. The JS100 has a three-position fence for 0°, 90°, and 45° angles; it probably isn't versatile enough for most professionals. The fence on the JS102 is more useful and can be set to any angle from 0° to 90°, with a detent at 45°. Look for upgraded Freud biscuit joiners in 2006.



Makita 3901

www.makita.com
800-462-5482

Weight...6¼ lb.
Biscuit-slot sizes...
#0, #10, #20, S,
D, M

This lightweight tool made top-notch joints and cut slots for all biscuit sizes except the FF mini-biscuits. However, the side-mounted trigger is located poorly, and there is no grip on the body of the tool. The fence is difficult to read but has useful detents at 45° and 90°. An included thickness plate can be attached to center biscuits in ½-in. boards. The blade was one of the easiest to access and change, but the dust port clogged easily when cutting solid wood.



\$170



Virutex AB11C

www.virutex.es
800-868-9663

Weight...6 lb.
Biscuit-slot sizes...#0, #10, #20

This is the only tool with a safety mechanism on the top-mounted switch that prevents it from being turned on accidentally. Although this biscuit joiner is lightweight, it was difficult to grip the square body. The fence was simple to use, but the angle adjustment, limited to 90°, was difficult to read. The height adjustment, on the other hand, reaches almost 2 in., allowing biscuits to be centered in 3/2-in. stock.

\$290



Lamello Classic C2

www.lamello.com
800-252-6355

Weight...6 1/4 lb.
Biscuit-slot sizes...#0, #10, #20, S, D, M

This Lamello is packed with features. But surprisingly, its well-thought-out design doesn't include a comfortable grip like those found on the DeWalt and Porter-Cable tools. It has a versatile fence with detents at 22.5°, 45°, and 67.5°. Unfortunately, the angles are not marked. The height stop reaches 2 3/8 in. to center biscuits in 4 3/4-in. boards and also can be attached to the base to stabilize the tool for vertical use. An accessory thickness plate can be attached to the fence to center biscuit slots in 1/2-in. stock. The dust port worked well, though it doesn't come with a dust bag. An aftermarket accessory vacuum hose (\$49) is available as well as a smaller blade that can be used to cut mini-biscuits (\$99). The Classic C2 comes with a toolbox-style case with a tray for its accessories. The manual is too brief to be useful.

\$440

\$650

for frequent, wide-ranging projects

\$200



Porter-Cable 557

www.portercable.com
800-487-8665

Weight...7 1/2 lb.
Biscuit-slot sizes...
FF (with blade change),
#0, #10, #20, S, D, M

This tool is the best value because it comes with an extra blade that can be used to cut FF mini-biscuit slots. Changing the blade was easier than on most of the tools and is described in Porter-Cable's well-illustrated manual. The fence is versatile, reaching 135°, and easy to adjust to angles over 90°. It also comes with a thickness plate for locating biscuits in the center of 1/2-in. stock. This tool is a little larger and heavier than most, but it has comfortable handles that made it easy to use for extended periods of time. The dust port and bag aren't great on this tool, but the port is sized to accept a standard 1-in. vacuum hose, which improved dust collection.

AUTHOR'S CHOICE
BEST VALUE

Lamello Top 20S

www.lamello.com
800-252-6355

Weight...7 1/4 lb.
Biscuit-slot sizes...#0, #10, #20, S, D, M

As the price suggests, this tool is in a class of its own. Thanks to a soft-start motor, there's no chance of the Top 20S kicking itself off the mark when it's turned on. The plunge action was super smooth, and the clearly marked fence has detents at 22.5°, 45°, and 67.5°. There's a height stop that can be attached to the base to aid in parallel alignment and vertical use. For precision biscuit placement, the blade can even be adjusted 2 mm up and down inside the housing, a feature unique to this biscuit joiner. The tool did not come with a dust bag to test, but the dust port worked well. An accessory vacuum hose (\$49) is available from the manufacturer. Out of the box, this biscuit joiner will cut slots for all biscuit sizes except mini-biscuits; an aftermarket blade is available to make mini-biscuit slots (\$99). Accessing and changing the blade on this tool was easier than on most of the others. This biscuit joiner came with a nice wooden case, suitable for the top shelf in a shop but doomed to break in the back of a truck. At \$650, this tool is better-suited for precision shop work than rigorous job-site applications, anyway.

AUTHOR'S CHOICE
BEST OVERALL

